Komline Sanderson

Kompress®

Belt Filter Press

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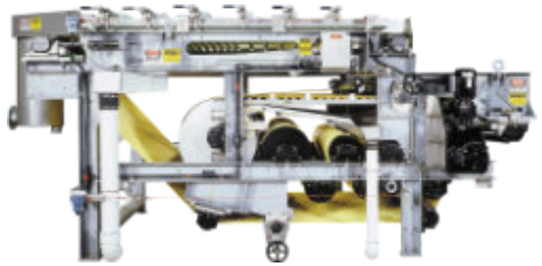
A Larger Standard Filtration Area for Greater Process Throughput and Consistently High Cake Solids

The Kompress® Belt Filter Press starts with more standard filtration area than comparable systems and thoughtfully integrates gravity dewatering, an adjustable wedge, and high compression stages for optimal performance. Utilizing K-S's Roto-Kone® High Rate Drainage System the Kompress® significantly increases throughput over a similarly-sized competitive system with better filtration results.

A choice of 2- or 3-belt dewatering systems with standard, extended, or independent gravity zones—unique to the Kompress®—offers consistently high performance for normal, poor draining, or extremely dilute sludges.

A Unique High Rate Drainage System Dramatically Improves Filtration Rate

The unique design of the Kompress® Belt Filter Press's High Rate Roto-Kone® Drainage System—another K-S technological advance—significantly increases throughput over competitively-sized belt filter press systems. The Roto-Kone's exceptional ability to hold solids in the gravity zone for longer periods of time and turn these solids over repeatedly results in a dramatically improved filtration rate.



Easily Adjustable Variable Compression Wedge Zone Maximizes Throughput Rate and Performance

The Kompress® Belt Filter Press features a variable compression wedge zone that utilizes two tensioned filter belts to gradually increase pressure on the material in the wedge before it enters the high pressure zone at the first dewatering drum.

Unlike fixed or adjustable plate design wedges, the GRS Series III's unique ability to "set a gap" by moving the wedge zone's entrance roller provides the needed flexibility to accommodate inlet consistency changes and other process factors to maximize both throughput rate and performance.

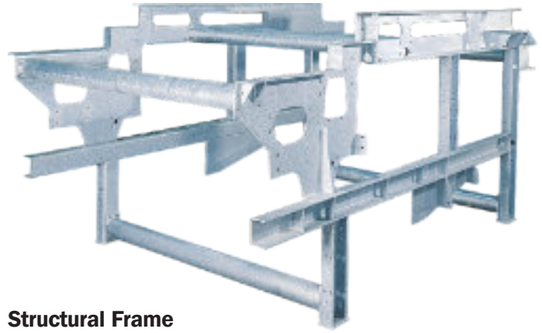
A High Performance, Larger to Smaller Drum Pressure Profile for Higher Cake Solids Concentration

The Kompress® Belt Filter Press's high performance pressure profile begins with a 30" diameter, self-bailing, perforated, dewatering drum. This is larger than the drums typically found in competitor's belt filter presses. While more costly to build, a larger diameter first drum starts the dewatering process at a lower pressure to eliminate the possibility of an "upset" condition.

Use of this larger first drum and a succession of decreasing diameter drums gradually increases the pressure profile to a maximum dewatering force that produces the highest cake solids.

High Quality Structural Frame Materials and Components for Long-Lasting, Trouble-Free Operation

The Kompress® Belt Filter Press is built with the highest quality frame materials and components to ensure long-lasting, trouble-free operation in hostile sludge dewatering environments.



Structural Frame

The heavy duty 3/8″ structural steel frame is designed for ten times (10x) calculated loading, is hot dipped galvanized after all welding, and includes stainless steel fasteners with self-locking nuts. 304 and 316 stainless steel frames are available at an additional cost.

Roller and Journal Design

A specialized roller and journal design features nylon covered, 1/2″ thick, heavy-duty steel with double end plate construction for long life and 17-4 PH stainless steel journals that are 2-11/16″ diameter at the bearing for maximum strength.

Variable Orifice Mixing Valve

Rugged 316 stainless steel valve provides adjustable mixing capability to greatly reduce polymer usage.

Bearing Design

One size, heavy-duty, split pillow block, spherical roller bearings C-rated to 48,000 pounds provide a minimum L-10 life of 800,000 hours. A highly effective dual inboard seal design incorporates a triple check seal and splash shield to protect the bearings from external contaminants and water.

K-S Custom Designed and Built Instrumentation and Controls for Guaranteed System Integrity

All instrumentation and controls for the Kompress® Belt Filter Press are custom designed and built in-house to meet individualized customer needs and ensure complete operating system integrity. K-S uses only the highest quality UL listed components, completely labels all wiring, and runs panel wiring in panduit. NEMA 4X stainless steel enclosures are standard and the panel can be UL 508 labeled.

K-S's extensive experience with PLC's also means the Kompress® can be easily integrated into touch screen, DCS, MMC, or stand alone system architectures.

Outstanding Operating Features and Technology Advances for Higher Throughput Capacity, Lower Operating Cost, and Easier Maintenance

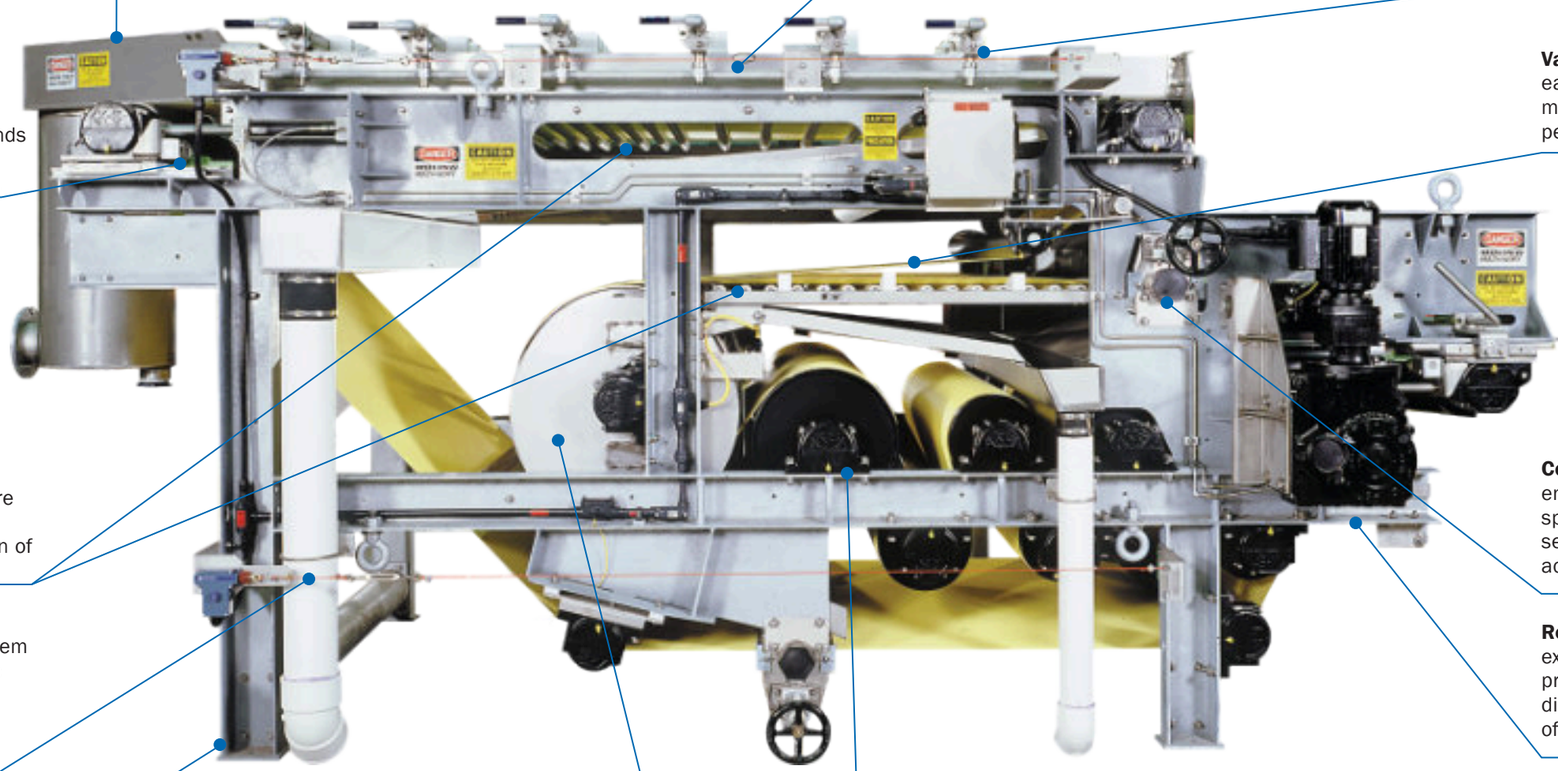
Feed Section features flocculation tank and feed box to distribute sludge uniformly across the entire width of belt.

Highly Effective Gravity Zone with Roto-Kone® elements and Roto-Trak® plows works sludge to promote rapid and thorough drainage.

Unique Lifting Mechanism in the High Rate Drainage System allows raising and lowering the plows and elements into or out of service.

Rack and Pinion Tension Control links both ends of the take-up roll to assure parallel belt movement which prevents uneven belt tension.

Variable Compression Wedge Zone can be easily adjusted during operation to maximize material throughput and dewatering performance.



Gravity and Wedge Zone Belt Support Bars are made of abrasion-resistant polyethylene and enhance dewatering by breaking surface tension of liquid, greatly reducing polymer usage.

Continuous Belt Washing is provided by fully enclosed wash stations with high pressure SS spray nozzles, internal cleaning brushes, special seals to eliminate noise and overspray, and access panels for convenient maintenance.

Built-In Safety Rope surrounds the entire system for emergency shutdown. Additional automatic shutdown controls stop the system for low pneumatic/hydraulic pressure, gross belt misalignment, broken belt, drive failure, or low belt wash pressure.

Replaceable Polypropylene Discharge Blades extend over entire belt width, have a belt seam protector, and are counterweighted. Dry cake discharge is standard with optional discharge of thickened, pumpable sludge.

Heavy Duty 10x Frame is 3/8" carbon steel and hot dipped galvanized after welding. 304 and 316 stainless steel frames are available.

Self-Bailing Perforated First Dewatering Drum eliminates rewetting of the cake through removal of water from inside the drum.

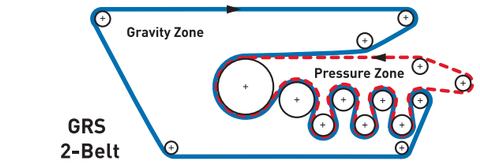
Heavy Duty Split Pillow Block Spherical Roller Bearings are all one size. A highly effective sealing arrangement protects bearings from external contaminants and water.

A Choice of 2- or 3-Belt Dewatering Systems with Standard, Extended, or Independent Gravity Zones for Consistently High Cake Solids in Varying Sludge Conditions

2-Belt System with Standard Gravity Zone (GRS)

The standard 2-belt gravity dewatering system (GRS) utilizes one of the belts across both the gravity zone and pressure zone. This requires selecting a belt which is a compromise between a more open belt required for optimum gravity drainage and a tighter belt required to retain solids in the pressure zone.

Ideal for sludges having feed solids concentrations of 1.5% and greater, or where there is no additional benefit to retaining thickened solids in the gravity section for longer periods of time.



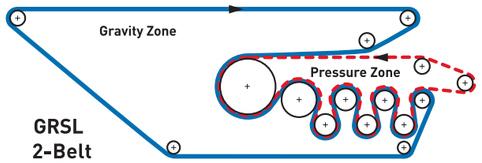
Pressure zone available with:

2-Belt System with Extended Gravity Zone (GRSL)

The extended 2-belt gravity dewatering system (GRSL) provides a larger gravity filtration area for slow-draining sludges.

Use of an extended gravity zone allows additional drainage time to assure removal of all free water and proper stabilization of solids prior to entering the wedge and high pressure zones.

Ideal for sludges with feed solids concentrations of 1.5 to 2.5% or other sludges that drain slowly and will benefit from extra drainage time.



Pressure zone available with:

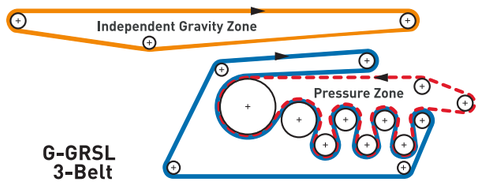
3-Belt System with Independent Gravity Zone (G-GRSL)

The 3-belt gravity dewatering system (G-GRSL) with independent gravity zone provides increased hydraulic filtration capacity from the same gravity filtration area as the 2-belt GRSL.

The G-GRSL's specially designed independent gravity zone allows selection of open, more porous belts to accommodate the higher hydraulic loading rates that occur when dewatering dilute sludges.

A separate belt drive provides independent speed control to:

- Handle dilute sludges with feed solids concentrations of 1.5% solids and lower
- Produce higher cake solids
- Provide higher throughput rates without sacrificing cake solids
- Optionally operate as only a gravity belt thickener



Pressure zone available with:

K-S Testing Ensures Optimal Operation for Your Plant

By testing a sample in our state-of-the-art tech center, K-S can help to select the proper design to meet your specific requirements, including the Kompress® model, pressure roll count, and belt width.

K-S's extensive experience allows us to characterize a customer sample and determine the best approach to ensure consistently optimal performace.

Komline

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